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An overview of drug delivery vehicles for cancer treatment: Nanocarriers and nanoparticles including photovoltaic nanoparticles (Short Survey)

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Abstract

Cancer is a complicated disease for which finding a cure presents challenges. In recent decades, new ways to treat **cancer** are being sought; one being nanomedicine, which manipulates **nanoparticles** to target a **cancer** and release drugs directly to the **cancer** cells. A number of **cancer** treatments based on nanomedicine are under way and mostly are in preclinical trials owing to challenges in administration, safety, and effectiveness. One alternative method for **drug delivery** is the use of **photovoltaic nanoparticles**, which has the potential to deliver drugs via light activation. The concepts are based on standard **photovoltaic** cell that holds opposite charges on its surfaces and releases drugs when charge intensity or polarity changes upon photo-stimulation such as from a laser source or sunlight. This review will cover some recent progress in **cancer treatment** using **nanoparticles**, **including photovoltaic nanoparticles**. © 2016 Elsevier B.V.

Author keywords

Cancer; **Drug delivery** system; **Nanocarriers**; **Nanoparticles**; **Photovoltaic nanoparticles**

Indexed keywords

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EMTREE medical terms: drug delivery system; human; Neoplasms

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